The problems of personality-centered approach in teaching and training physics

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Abstract

Issues regarding personality-centered culture were always on the focus of attention as well as the subject of discussion at the all stages of development of society. This issue was in the highlight in Platon and Aristotle schools B.C. as well. In his book "Policy" Aristotle stated that human kindness is obtained with moral education and the moral education with experience and education. Expressing the necessity of using wise people living among common people for the state government and organizing their education in a special manner Platon and Aristotle stated that the state should always keep personality-centered upbringing of such people under control and take care of them. The model of parent, school, teacher and establishment of personality-centered upbringing process by the state based on Aristotle's ideas has been used in a number of education systems of the world until present.

"From the moment of confiding in students…. I have become the person assisting in gaining knowledge from a teacher and expert".

Carl Rogers

Introduction

From 19th century onward the English scientist Herbert Spencer's idea on one of the principal duties of European education: "It is the duty of education to prepare us for the life" clarified the concept and caused to extensive discussion. By developing his thoughts in this direction he emphasized the advantage of personality-centered education in the process of training-upbringing: "Children should make their personal findings and achieve results by themselves. They should be provided with less explanation so that they principally can make discoveries themselves" (7, 9).

The concept of giving considerable importance to the personal qualities of a learner became popular in Summerhill Scholl opened in Lyme Regis by English educator Alexander Sutherland Neill in 1924. One of the main principles of this school is the consideration of physiological and psychological maturity of a learner and availability of no advancement and age limit. Neill considered that children perceive their readiness for study themselves. He believed that "A child is wise and initiator by nature and his future belongs himself, he will progress maximum by getting out of control of old people and using all opportunities" (8).

After our Republic gained independence, one of the problems that we faced was the change of purpose of education as well as its direction to humanistic, personality-centered conception. The main objective and duty is our young people's obtaining knowledge, skills and habits as well as development and approval of their positive qualities as well bringing up them as appropriate identity for society and state.

These principles were essentially mentioned in "Education Reform Program of Azerbaijan Republic" confirmed by the decree No.168 of the great leader Heydar Aliyev on June 15, 1999, "Concept and Strategy of Continuous Teacher Education and training" approve by the decree No. 102 of The Cabinet of Ministers of Azerbaijan Republic on June 25, 2007 and the Law "of the Republic of Azerbaijan Republic, Ilham Aliyev on June 2009, the State Education Development Strategy and a numerous education programs.

Besides implementing the main principles of the state policy about education – humanism, democracy, equality, nationality, secularity etc., the government of Azerbaijan set the objectives of bringing-up patriotic, free and creative thinking citizen and personality loyal to his country and realizing his liability before Azerbaijan state, respecting national loyal to his country and realizing his liability before Azerbaijan state, respecting national traditions, ideas, democratic principles, human rights and freedom. Regarding the realization of personality-centered education, our education system continues to develop these ideas as well conduct goal-oriented reforms in its content and structure by using universal values of education systems of the leading countries in the world.

As a systemic and logical course of reforms, the first strategic direction mentioned in "The State Strategy on the Development of Education in Azerbaijan Republic" approved by the decree of the President of Azerbaijan Republic on October 24, 2013 was intended to the creation of personality-centered education context based on the skill…" (1).

Knowledge, skill, habit, functional readiness regarding certain activities as well as educating people with personal qualities: public activity, creativity, initiative, ability, skill etc. humanist properties were established as one of the principal demands in the "State Strategy on the development of education in Azerbaijan Republic" and this principle covers an essential target as a development of curriculum on all levels of education such as pre-school, general, primary vocational, secondary vocational and higher" (1).

Personality-centered education requires the transition of the education type of focusing on person's obtaining certain knowledge and skills into the education providing the development of the personality capable of adapting to socio-economic development requirements of the Republic as well as the requirements of developed countries' economic infrastructure, making himself the subject of creative activity and behavior. This principle changed the objectives set before the education system in connection with the implementation of personality-centered education specified in "State Strategy on the development of education in Azerbaijan Republic" and defined the new objectives as follows: "-to develop human capital essential for modernization of the country and increase the international competitive capability of Azerbaijan Republic;

-to educate free and creative thinking citizen and personality loyal to the ideas of Azerbaijanism and perceiving his liability, respecting national traditions, human rights and freedom;

-to train modern thinking and competitive personnel with wide worldview, protecting and developing national moral and universal values, able to evaluate initiatives, innovations, possessing theoretical and practical knowledge" (1).

Personality-centered approach is the best way leading to the results orientation on regulation and development of teacher-pupil and teacher-student relations in the education system of Azerbaijan. During this process the teacher should perceive different sides of teaching, consider individualities, properties, new technologies and systems, assist learners in obtaining new knowledge and skills, adapting to the requirements of the new society and surrounding by socio-public support, creating appropriate condition for formalization as a personality. "The teacher should realize the importance of education, be humanist, have the good knowledge his subject, pedagogy and psychology, always use personality-centered pedagogical methods, endeavor for consistent development of this intellectual level" (2).

On the background of modernization of education, the teacher shouldn't restrict his activity with classroom, always increase the volume of knowledge according to the request of personality and society, correctly determine pedagogical service market requirements and conduct the independent scientific-research work in compliance with it and try to constantly increase the level of professionalism. While performing activities in this direction, the teacher should establish interrelation with other colleagues. "Traditional education system has already become outdated and does not comply with demands of contemporary period. It should be gradually changed by progression, conducting the new qualitative changes and be adapted to social, personality-centered education" (4).

At the present day, the change of demands set before the content and structure of physics available in the world and Azerbaijan keeping with modern standards is required. The problem of creating result-oriented concept of physics taught in the schools of Azerbaijan and changing methodology of physics teaching into personality-centered training method meeting modern requirements still exists. At present, scientist-educators working on the investigation of the methodology of teaching physics consider personality-centered approach one of the most advanced and modern directions of pedagogical activity. Connection of the concept and features concerning personality-centered approach with the personal qualities – existing social experience, knowledge, skills and habits considered in the different education programs. "This principle considers the creation of a dialogue among the subjects of education process in relation to the relations, setting problems in the training process for advancement of a learner, introducing real personal experience of a learner into the training process and directing the training to the development of personal creativity of the subject and its individualization (2).

During the state university entry exams held in 2013-2014, applicants of Azerbaijan sector correctly responded 28,34% of physics test questions in I group, 26,14% in II group and applicants of Russian sector correctly responded 33,64% in I group, 32,85% in II group. "This result originates from non-conduction of teaching process in normal level in the majority of schools, lack of exigency and particularly low level proficiency of majority of teachers and incapability to use the new training methods and technologies (3). The main reasons of the low results achieved by applicants on physics should be investigated in the teachers "incorrect selection of teaching methods, usage of existing opportunities of result-oriented personality-centered approach in teaching natural sciences. Physical

processes and terms taught without considering the essence are not perceived by the pupils, inter-subject relations are not created, not related to other process, quickly forgotten and impedes study of the new subjects. The statistical analysis of the examinations" conducted by SSAC revealed that the majority of applicants answered test questions incorrectly or refused to answer the most of test on "Movement of material bodies under force of gravity", "Mechanical oscillations and waves"in "Mechanics" topics, "Electric capacity", "Electromagnetics" topics"(3).

- The reasons generating the above mentioned can be nearly grouped as fllows:
- Complex and outdated physics and astronomy programs and books for 7-11 grades of secondary schools(2002)
- Discrepancy between physics programs of secondary schools and universities;
- Week inter-subject (especially physics-mathematics) relation in physics standards,programs and books for secondary schools;
- Low level of competence of secondary school teachers;
- Non-efficient use of methods of physics teaching for secondary school and lack of the new technologies;
- Non-efficient use of the latest achievements of scientific-tchnical progress in the process of activity.

"Scientific-technical progress requires modernization and updating of training and pedagogical technologies, regular improvement of production process, constant improvement of physics content improvement of physics content and its teaching method. Therefore the extension of human-nature, human-techology relations at present established a great demand for teaching physics fundamentals by using more efficient methods" (5)

Result-oriented education process of natural phenomena as well as physical phenomena and conceptions require basically individuality, personality-centered approach – as well as educating each learner by taking his personal features into consideration. The psychological and physiological condition of each pupil should be considered during education of physical phenomena and conceptions and it should be intended to the formalization and development of their personal and subjective qualities.

According to Nasraddin Tusi "paying extensive attention to the intellect, competence, determining the profession and science that a pupil has inclination to and training him in this profession is of great importance… A pupil engaged in the profession that he has the ability on will yield a result in a short term, become a great master, otherwise the effort given would be in vain, life would be spent for nothing".(6)

Based on these principles of Nasraddin Tusi, the Russian scientist, Doctor of Psychological Science, Professor, I.S.Yakimanskaya mentioned that individuality of each pupil should be the bearer of the experience gaind by that person (subject). In the organization of a learner's education process "The effort should be firstly given to the determination of pupil's natural potential for his formation as individuality" (11,12).

Despite all methods have developmental feature, not all developmental methods are considered personality-centered method. Personality-centered education is focued on the personality of a pupil, determines his peculiarity, self-assessment, personal experience etc., and thereafter is adjusted with the subject of education. Therefore, the subject to be taught is set against to the subjective experience of a learner and developed as subjective experience by virtue of pedagogical technologies.

Conventionally, the existing models of personality-centered pedagogy can be grouped as pedagogical, social-pedagogic, methodological and psychological:

Social-pedagogical model set the purpose of performing the society's (principal

ideology) order on the education system and each learner to be the bearer of a culture according to its requirements.

In the methodological model, educational technologies of scientific knowledge on the

subject are preferred. This principle realizes individual approach by virtue of subject differentiation in the education. The purpose of differentiating subjects substantiates the determination of the following directions:

1. Preference of the studying person to different materials in relation with the subject

of the subject.

2. Revealing the interests on in-depth study of the selected material.

3. Development and direction of the learner's activity interests on the subject.

Differentiation process of the subject is set by considering the scientific content of the

scientific cognition based on the traditional rules of cognition.

The bearer of a certain individualized and developing knowledge in the psychological model is knowledge, but not a learner. The process of transmitting education is regulated by taking the individual qualities of the knowledge into consideration. The consideration of the amount, novelty, complexity, perception and integration opportunities of the material to be taught plays a decisive role.

The psychological model of personality-centered approach is directed to the development of cognitive skills. Cognitive skills have been studied typically (reflex, planning, purposefulness) not individually up to the present. As the only development means of these skills are the training process, their normative content and structure was established as "standard". At present, the different viewpoint was formalized for structural principles, perception and organization of personality-centered education. The recognition of peculiarity, self-assessment, experience of the identity's (subject's) exceptional experience, not the personal qualities of each learner as the subject of the collective group stands on the basis of these viewpoints. On the basis of these viewpoints, the principle goal in studying physics should not be getting planned results, but revealing personal qualities of each learner as well as proper determination of the new pedagogical technologies of personality-centered approach providing his development.

Individuality is the general description of the qualities developed in the legatary and educational-training process of each person. These qualities are considered in various activities: game, training, arts, sports, creation model at school, the following issues should be firstly carried out:

perception of educational-training process conception not as the combination of training and upbringing but as development of individuality, skill formation, complementing each other as the part of training and upbringing;

determining the specific features of mutual relations of educational- training process participants: managers, teachers, learners and parents;

determining innovative values of education- training process efficiency.

It should be considered that besides existing common standards in the teaching of physics for all pupils at secondary school, all of them have different individual features as well. At present, one of the principle goals is educating everyone as well as educating each

learner separately by considering their personal features in the education. With a view to eliminate this difference, training technologies of personality-centered approach should be preferred. Therefore, for methodical provision of personality-centered approach process, the special emphasis should be on the following duties:

Developing positive climate (mutual understanding and confidence) between teachers and pupils;

Consideration of individual qualities of each pupil in the classroom;

Taking step on the subjective experience, aim and interests of each pupil;

Availability of different choices complying with the condition in all possible cases;

Provision of wide range of didactic materials;

Creation and evaluation of positive climate for achieving successes.

Besides the usage of different principle and methods of personality-centered education in the process of teaching physics, the researches developing its opportunities on the following directions and contexts are required:

Creation of personality-centered context on the secondary level;

Creation of responsible, transparent and efficient control mechanics on the results in the process in the teaching physics;

Search for the ways of comprehensive formalization of personality in physics lessons;

Creation of control mechanisms on the development dynamics of pupils in personality-centered approach;

Advantages of personality-centered approach in education-training process and individualization of education;

Motivation of a learner to the education and the role of personality-centered approach in the increase of cognition activity;

Advantages of personality-centered approach in the education-training process management;

Development of innovative methodology and relevant resources focusing on the development of pupils' cognition activity and personality as well as considering their individual features on physics;

Opportunities of personality approach in the formation of humanistic person;

Establishment of the new system on the identification, development and maintenance of the talent in terms of personality, society and state interests at an early age in the process of teaching physics;

Determining join contemporary ways of gaining cooperation, care, creativity and achievements between teachers and learners within the application of personality-centered technologies.

References

1. Azərbaycan Respublikasında təhsilin inkişafı üzrə Dövlət Strategiyası, Xalq qəzeti, 2013-cü il 25 oktyabr tarixli sərəncamı.

2. "Azərbaycan Respublikasında fasiləsiz pedaqoji təhsil və müəllim hazırlığının Konsepsiya və Strategiyası", Azərbaycan Respublikası Nazirlər Kabinetinin 2007-ci il 25 iyun tarixli 102 nömrəli qərarı.

3. Abituriyent 2013, №12.

4. Mehrabov A.O. Azərbaycan Təhsilinin Müasir Problemləri. Bakı. Mütərcim, 2007.

5. Mehrabov A.O. Müasir təhsilin konseptual problemləri. Bakı. Mütərcim, 2010.

6. Rzayev A. Nəsrəddin Tusi. Həyatı, elmi, dünyagörüşü. Bakı. İrşad, 1996.

7. Пятьдесят крупнейших мыслителей об образовании. От Конфуция до Дьюи. М.: Изд. дом Высшей школы экономики, 2012. 424 с..

8. Пятьдесят современных мыслителей об образование. От Пиаже до наших дней. М: Изд. Дом Высшей школы экономики, 2012 №488 с.

9. Spencer H. Education: Intellectual, Moral and Physical. L. : Williams and Norgate, 1861. P.94.

10. Rogers C. Freedom to Learn for the 80's. Columbus, OH: Charles Merrill, 1983.

11. http://rudocs.exdat.com/docs/index-508678

12.http;//nsortal.ru/detskii-sad/raznoe/tehnologiyalichnostno-orientirovannogoobucheniya